UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,411	08/01/2003	Parvathanathan Subrahmanya	020133	4378

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QUALCOMM INCORPORATED
5775 MOREHOUSE DR.
SAN DIEGO, CA 92121

EXAMINER
DOAN, KIET M

ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
05/08/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kascanla@qualcomm.com
nanm@qualcomm.com

	Application No.	Applicant(s)
Office Action Summary	10/632,411	SUBRAHMANYA, PARVATHANATHAN
	Examiner	Art Unit	
	Kiet Doan	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-54* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

This office action is response to Pre-Brief appeal decision on 02/21/2007.

Double Patenting

1.   The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees.   A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-54 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13 of Pub. No. US2005/0020219. Although the conflicting claims are not identical, they are not patentably distinct from each other because they recite the same concepts of determining velocity of mobile device and adjusting/coefficients of the filter in response to velocity of the mobile device.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8, 13-14, 16, 22-24, 32-35, 39, 43, 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Hyuk Jun Oh et al. ("An adaptive channel estimation scheme for DS-CDMA system". XP-001033051) in view of Kubo et al. (US 6,249,682).

Consider **claims 1, 16, 24, 35, 39, 43. Oh et al.** teaches a method of adapting a pilot filter that processes received signals in a wireless communication network, the method comprising:

determining a velocity of a wireless communication device in relation to a wireless network infrastructure; and

determining one or more coefficients of the pilot filter based on the determined velocity of the wireless communication device (Abstract, column 2-5 Fig.1).

Oh et al. teach most of the limitation of claim base on velocity of mobile station but silent on in relation to a wireless network infrastructure. However, Oh at al. mention in the introduction that "mobile communication system" as introduced is obviously contain wireless network infrastructure, and for the sake of clarify, reference Kubo et al. teaches estimating speed in communication between base station and mobile station.

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Oh et al. system such that determining a velocity of a wireless communication device in relation to a wireless network infrastructure; and determining one or more coefficients of the pilot filter based

on the determined velocity of the wireless communication device to provide means for

uninterrupted service and quality when mobile device travel in different velocity.

Consider **claims 2-8.** Oh et al. teaches a method as defined in claim 1, wherein

determining the velocity of the wireless communication device and determining the one

or more coefficients are performed in the wireless communication device/network

infrastructure (column 2-5).

Consider **claims 13-14, 22-23, 32-34 and 47-48**. Oh et al.teaches a method as

defined in claim 1, wherein the pilot filter is a finite/ infinite impulse response filter (C1-

4).

3.   **Claims 9, 20, 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over

by Hyuk Jun Oh et al. ("An adaptive channel estimation scheme for DS-CDMA system",

XP-001033051) in view of Yoshimura (US 6,6681,172).

Consider **claims 9, 20, and 30.** Oh et al. teaches the limitation of claims as

discuss **but silent on** a method as defined in claim 1, wherein determining the velocity

further comprises receiving velocity information from a global positioning system

receiver.

In an analogous art, Yoshimura teaches "reception apparatus and reception

processing method". Further, **Yoshimura teaches** a method as defined in claim 1,

wherein determining the velocity further comprises receiving velocity information from a global positioning system receiver (C2, L40-49, Fig.1).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Oh et al. and Yoshimura system such that receiving velocity information from a global positioning system receiver to provide means for accurate position of mobile device.

4.   **Claims 10-12,15-19, 21, 24-29, 31, 36-38, 40-42, 44-46, 49-54** are rejected under 35 U.S.C. 103(a) as being unpatentable over by Hyuk Jun Oh et al. ("An adaptive channel estimation scheme for DS-CDMA system", XP-001033051) in view of Corbett et al. (Patent No. 6,351,642).

Consider **claims 10, 21 and 31.** Oh et al. teaches the limitation of claims as discuss above **but silent on** a method as defined in Claim 1, wherein determining the velocity further comprises receiving at least two location measurements of the wireless communication device, wherein the measurements are made at different, known, times, and determining the velocity of the wireless communication device is based on the at least two location measurements and their respective measurement times.

In an analogous art, Corbett teaches "CDMA soft hand-off". Further, **Corbett teaches** a method as defined in Claim 1, wherein determining the velocity further comprises receiving at least two location measurements of the wireless communication device, wherein the measurements are made at different, known, times, and determining the velocity of the wireless communication device is based on the at least

two location measurements and their respective measurement times (C4, L56-67, C5, L1-25, Fig.2, Illustrate step calculation velocity and measurement are made).

Therefore, it would have been obvious at the time that the invention was made that person having ordinary skill in the art to modify Oh et al. and Corbett system, such that measurements are made at different, known, times, and determining the velocity of the wireless communication device to provides means for accurate speed/velocity location where about the mobile device are travel.

Consider **claims 11, 36, 40 and 44.** Corbett teaches a method as defined in claim 1, wherein the wireless network infrastructure further comprises a base station (C4, L1-8, Fig.1, No.110).

Consider **claims 12, 17, 25, 37, 41, 45.** Oh et al. teaches a method as defined in claim 1, wherein determining the one or more coefficients further comprises determining the one or more coefficients based on a noise power estimate (Column 2-5).

Consider **claims 15, 18 and 28.** Oh et al. teaches a method as defined in claim 1, wherein determining the one or more coefficients further includes selecting the one or more coefficients from a set of predetermined coefficients (C2-5).

Consider **claim 16.** Oh et al. teaches a communication device comprising: a pilot filter that receives pilot signal samples over a communication channel ; and

a controller that determines filter coefficients of the pilot filter based on the

wireless communication device velocity and adapts the pilot filter to the communication

channel (C2-5).

Consider **claims 19 and 29**. Oh et al. teaches a communication device as

defined in claim 18, wherein the predetermined coefficients are retrieved from a look up

table (C2-6).

Consider **claims 24 and 49**. Oh et al. teaches a communication device

comprising: a plurality of pilot filters each of which is configured to receive a pilot signal

and to output a filtered pilot signal; and a controller configured to select one of the

plurality of pilot filter outputs based on the wireless communication device velocity (C2-

6).

Consider **claim 26**. Oh et al. teaches a communication device as defined in claim

24, wherein the plurality of filters are configured to be adapted by changing filter

coefficients (Title, C2-5).

Consider **claim 27**. Akiyama teaches a communication device as defined in claim

26, wherein the controller determines filter coefficients for the plurality of pilot filters

based on the communication device velocity (C2-5).

Consider **claims 38, 42 and 46.** Kubo teaches a wireless communication system

as defined in claim 35, wherein the signals received from the mobile wireless

communication device include an estimate of the mobile wireless communication device

velocity (Abstract, C2, L12-29).

Consider **claim 50.** Oh et al. teaches a method as defined in Claim 1, wherein

the one or more coefficients vary with an increase in the velocity, and the one or more

coefficients vary with a decrease in the determined velocity (C2-5).

Consider **claim 51.** Oh et al. teaches a method as defined in Claim 1, wherein:

the pilot filter receives a plurality of pilot symbols; and each symbol of the plurality is

multiple by the at least one of the one or more coefficients (C2-5).

Consider **claims 52, 53.** Oh et al. teaches a method as defined in Claim 1,

wherein the coefficients are select to adapt the pilot filter to a communication channel

having an optimal performance (C2-5).

Consider **claim 54.** Oh et al. teaches a communication device as defined in claim

16, further comprising a receiver which is configure to: receive a modulated signal

comprising a pilot signal and a traffic signal; equalize the modulated signal; produce

data from the equalized signal comprising the pilot samples (C1, L15-59, C6, L1-22,
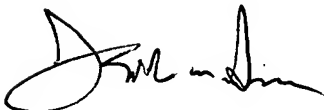
teach modulation signal).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiet Doan whose telephone number is 571-272-7863. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kiet Doan
Patent Examiner

JEAN GELIN
PRIMARY EXAMINER